

Amendments to the Claims

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Claim 1 ((Previously presented): A method for hands free voice communications using a personal communications device comprising:

sensing a bone conduction signal from a bone conduction sensor fitted to the contours of a posterior superior wall of an external auditory canal of a user such that the posterior inferior wall of the external auditory canal remains unobstructed to allow ambient sound into the external auditory canal and to avoid an occlusive effect;

transmitting the sensed bone conduction signal from a transmitter to the personal communications device; and

processing the sensed bone conduction signal at the personal communications device to create a processed audio signal.

Claim 2 (Previously presented): The method of claim 1 wherein the personal communications device includes a PDA.

Claim 3 (Previously presented): The method of claim 1 further comprising transmitting the processed audio signal from the personal communications device over a cellular transceiver.

Claim 4 (Previously presented): The method of claim 1 further comprising transmitting the processed audio signal from the personal communications device to a receiver disposed within an earpiece worn by the user; and sending the processed audio signal from the receiver to a speaker disposed within the earpiece.

Claim 5 (Original): The method of claim 1 further comprising performing a voice recognition function using the processed signal.

Claim 6 (Original): The method of claim 1 further comprising performing a voice activation function using the processed signal.

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Claim 7 (Previously presented): A method for hands free voice communications using a personal communications device comprising:  
sensing an air conduction signal from an air conduction sensor nonocclusively disposed within an external auditory canal of a user such that at least one wall of the external auditory canal remains unobstructed;  
sensing a bone conduction signal from a bone conduction sensor nonocclusively disposed within the external auditory canal of the user and positioned against a posterior superior wall of the external auditory canal;  
transmitting the sensed air conduction signal and the sensed bone conduction signal from a transmitter located in an earpiece to a personal communications device; and  
processing the sensed air conduction signal and the sensed bone conduction signal at the personal communications device to create a processed audio signal.

Claim 8 (Previously presented): The method of claim 7 further comprising transmitting the processed audio signal from the personal communications device over a cellular transceiver.

Claim 9 (Previously presented): The method of claim 7 further comprising transmitting the processed audio signal from the personal communications device to a receiver disposed within an earpiece worn by the user; and sending the processed audio signal from the receiver to a speaker disposed within the earpiece.

Claim 10 (Original): The method of claim 7 further comprising performing a voice recognition function using the processed signal.

Claim 11 (Original): The method of claim 7 further comprising performing a voice activation function using the processed signal.

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Claim 12 (Previously presented): A method for hands free voice communications using a personal communications device comprising:  
sensing an air conduction signal from an air conduction sensor proximate an external auditory canal of a user;  
sensing a bone conduction signal from a bone conduction sensor fitted to a posterior superior wall of the external auditory canal of a user such that at least one wall of the external auditory canal remains unobstructed;  
transmitting the air conduction signal and the bone conduction signal from a transmitter disposed within an earpiece to a personal communications device; and  
processing the bone conduction signal and the air conduction signal at the personal communications device to create a processed audio signal.

Claim 13 (Previously presented): The method of claim 12 wherein the air conduction sensor is in a position proximate the posterior superior wall of the external auditory canal and an opposite wall is unobstructed.

Claim 14 (Previously presented): The method of claim 12 wherein the personal communications device includes a PDA.

Claim 15 (Previously presented): The method of claim 12 further comprising transmitting the processed audio signal from the personal communications device over a cellular transceiver.

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Claim 16 (Previously presented): The method of claim 12 further comprising transmitting the processed audio signal from the personal communications device to a receiver disposed within an earpiece worn by the user; and sending the processed audio signal from the receiver to a speaker disposed within the earpiece.

Claim 17 (Original): The method of claim 12 further comprising performing a voice recognition function using the processed signal.

Claim 18 (Original): The method of claim 12 further comprising performing a voice activation function using the processed signal.

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Claim 19 (Previously presented): A system for hands free voice communication using the processing capabilities of a personal communications device comprising:

- an earpiece housing;
- an air conduction sensor adapted to be nonocclusively disposed within an external auditory canal of a user and operatively connected to the earpiece housing and capable of transducing air conduction signals;
- a bone conduction sensor adapted to be nonocclusively disposed within an external auditory canal of a user and operatively connected to the earpiece housing and capable of transducing bone conduction signals;
- a transmitter operatively connected to the air conduction sensor and the bone conductor sensor and attached to the earpiece housing for simultaneously transmitting the air conduction signals and the bone conduction signals;
- a personal communications device having a processor adapted for processing audio signals; and
- a receiver electrically connected to the personal communications device for receiving the air conduction signals and the bone conduction signals.

Claim 20 (Previously presented): The system of claim 19 further comprising a cellular transceiver electrically connected to the personal communications device for transmitting processed audio signals.

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Claim 21 (Previously presented): The system of claim 19 further comprising a speaker attached to the earpiece housing; a second receiver attached to the earpiece housing and the speaker; and a second transmitter operatively connected to the personal communications device adapted to transmit the processed audio signals to the second receiver.

**REMARKS****Overview**

Claims 1-21 are pending in this application. The present response is intended to traverse all rejections. The present response is an earnest effort to secure immediate allowance of the claims.

**Issues Under 35 U.S.C. § 103**

Claims 1-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U. S. Patent No. 5,721,783 to Anderson in view of U. S. Patent No. 6,048,305 to Bauman. These rejections are respectfully traversed.

Anderson is directed towards a hearing aid with a wireless remote processor (Abstract). Bauman is directed towards an open-in-the-ear auditory pathway stimulator device that includes a noise generator (Abstract). The device of Bauman can also include a hearing aid (Abstract). When Bauman and Anderson are considered in their proper context, it is respectfully submitted there is no proper motivation or suggestion to combine these references in the manner suggested by the Examiner. The Examiner's purported motivation or suggestion to combine is that:

"It would have been obvious for one of ordinary skill in the art at the time of the invention to substitute the housing structure in figure 1 or figure 4 of Bauman for the housing structure in figure 1 of Anderson (see Bauman reference, Column 4, lines 56-57 in which Bauman teaches allowing ambient sound into the external auditory canal and avoiding the occlusion effect; also see Column 6, lines 34-36)."  
(Office Action, page 3, lines 6-11).

Column 4, lines 56-57 of Bauman discloses: "In many cases the simulator can be combined with a hearing aid circuit to compensate for a hearing loss." Column 6, lines 34-36 discloses: "If the external ear canal is occluded, typically low frequencies are introduced, making the wearer report that their voice sounds like it is in a barrel." The passages of Bauman to which

the Examiner cites merely describe that Bauman is nonocclusive. There is nothing in these passages that would suggest to one skilled in the art to combine Bauman with Anderson. In particular, nothing to suggest to combine Bauman with a bone conduction signal from a bone conduction sensor or "transmitting the sensed bone conduction signal from a transmitter to the personal communications device" or "processing the sensed bone conduction signal at the personal communications device to create a processed audio signal." It is further observed that the Examiner does not cite to any motivation or suggestion to combine Bauman with Anderson from within the Anderson reference, which is the Examiner's primary reference.

What is apparent from the Examiner's combination is that the Examiner is merely focusing on the obviousness of substitutions and differences instead of on the invention as a whole. This is improper. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 U.S.P.Q. 81, 93 (Fed. Cir. 1986) ("Focusing on the obviousness of substitutions and differences instead of on the invention as a whole is a legally improper way to simplify the difficult determination of obviousness"). Therefore, it is respectfully submitted the Examiner has failed to make a *prima facie* case of obviousness with respect to claims 1-6. Therefore, it is respectfully submitted that these rejections must be withdrawn.

Claims 7-21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U. S. Patent No. 5,721,783 to Anderson in view of U. S. Patent No. 6,048,305 to Bauman and further in view of U. S. Patent No. 5,692,059 to Kruger. First, the Applicant submits that the combination of Anderson and Bauman is improper as the Examiner does not articulate any motivation or suggestion to combine except for the purported motivation or suggestion to combine set forth in the rejection of claim 1. As previously explained, there is no proper



motivation or suggestion to combine Anderson and Bauman articulated by the Examiner and therefore this rejection should be withdrawn on that basis.

The Examiner recognizes that neither Anderson nor Bauman alone, or in combination teach "simultaneously transmitting signals from both an air sensor and a bone conduction sensor" (Office Action, page 4, numbered paragraph 2). Instead, the Examiner attempts to rely upon Kruger to disclose sensing a bone conduction signal and an air conduction signal and transmitting it, citing to column 3, lines 41-46 (Office Action, page 4, numbered paragraph 2). At column 3, lines 41-46, Kruger discloses:

"This new system simultaneously uses both a bone and tissue vibration sensing transducer to respond to conducted lower speech frequency voice sounds and a band-limited acoustical microphone to detect the weaker airborne higher speech frequency sounds in the ear canal."

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This passage of Kruger does not stand for the proposition asserted by the Examiner. Even if Kruger discloses simultaneous sensing of bone conduction signals and air conduction signals, Kruger does not disclose simultaneously transmitting these signals. Nor does Kruger disclose transmitting the sensed air conduction signal and the sensed bone conduction signal from a transmitter located in an earpiece to a personal communications device. As none of the references disclose transmitting the air conduction signal and the bone conduction signal to a personal communications device, it is respectfully submitted that the Examiner has failed to establish a *prima facie* case of obviousness and therefore this rejection must be withdrawn.

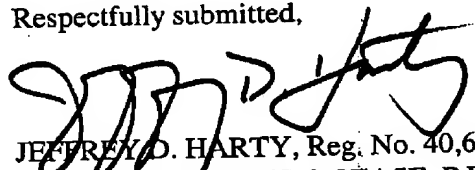
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It is further observed that the Examiner appears to be relying upon improper hindsight in making the combination of Kruger with Anderson with Bauman. Although Bauman can be incorporated within a hearing aid, Bauman is directed to a fundamentally different problem than wither Kruger or Anderson as Bauman provides for stimulation. Moreover, Bauman is directed

to a fundamentally different problem than Applicant's claimed invention that is directed to communications with an earpiece and not providing stimulation to an air. The Examiner's apparent selective combination appears to be based on nothing more than hindsight as the Examiner does not point to anything in the prior art as a whole that suggests the desirability of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). Therefore, it is respectfully submitted the Examiner should withdraw the rejections and find claims 7-21 allowable.

Please consider this a request for one-month extension of time and charge Deposit Account No. 26-0084 the amount of \$55.00. No other fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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